



Silicium silicium Silicium silicio Silício silicio Kisel



Online discussions

index

Index for silicon

background

Key data;
description

History

silicon around us

Uses

Geology

Biology

silicon compounds

Reactions of silicon

Compounds

Bond enthalpies

Radii in compounds

Lattice energies

Reduction potentials

electronic properties

Electronic configuration

Ionization energies

Electron affinities

Silicon

14

Si

28.0855(3)

Thermal Properties and temperatures

Temperatures

View...



Melting point [°K]: 1687 [or 1414 °C (2577 °F)]

Go!

View...



Boiling point [°K]: 3173 [or 2900 °C (5252 °F)] (liquid range: 1486 K)

Go!

View...



Critical temperature [°K]: no data

Go!

View...



Superconduction temperature [°K]: no data

Go!

Show elements whose melting point is

> or =



K

sorted ascending



by

melting point



Show elements whose boiling point is

> or =



°K

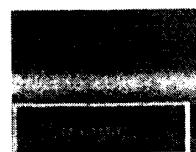
Go a
B
Al
Ga



6 19 03 11:50 AM

Electronegativities

sorted ascending by
boiling point



com
Select
below
Fluo

SiF

Effective nuclear charges

Electron binding energies

Atom radii

Valence shell radii

4000

physical properties

Bulk properties (density, resistivity, etc.)

Thermal properties (melting point, etc.)

Thermodynamic properties

crystallography

Crystal structure

[view VR world]

[view pdb image]

nuclear properties

NMR

Naturally occurring isotopes

Radioisotopes

WebElements

Drive traffic to your site by sponsoring silicon

WebElements online book store

 PalmElements for your Palm

Melting point
1. Drag cursor around plot area to show information.
2. Click on element within plot area to go to that element.

WebElements

Chlorine

SiCl

Boron

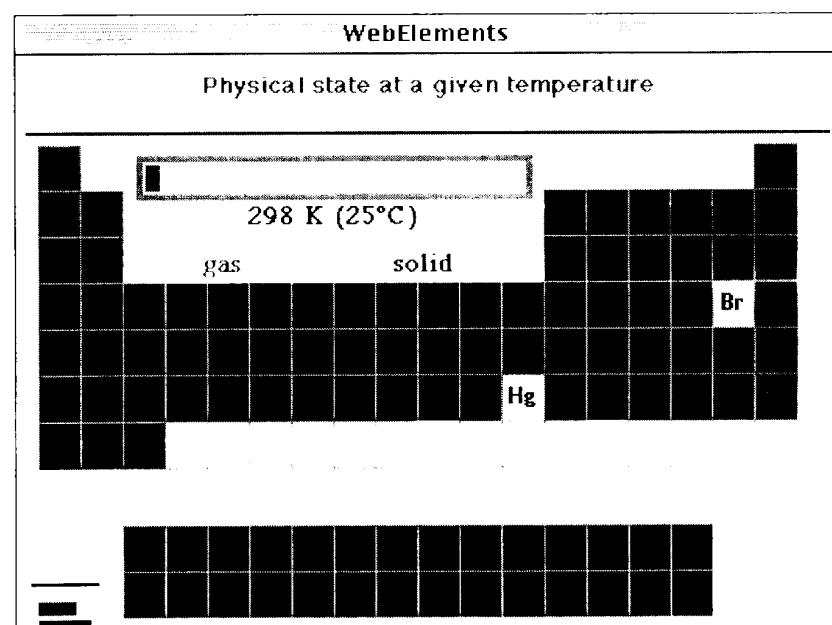
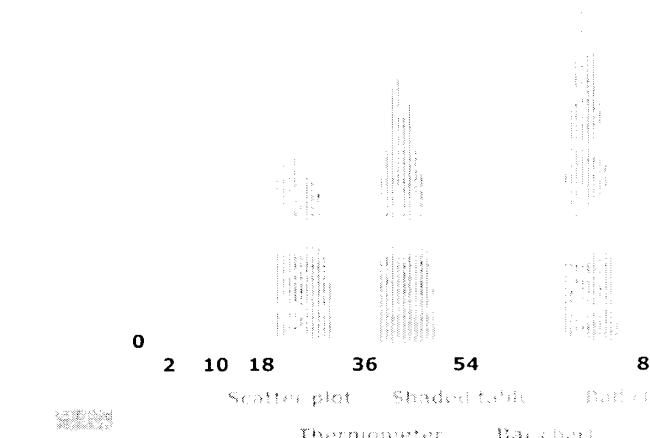
SiB

Iodine

SiI

Hydrogen

SiH



- Animate the above image by quicktime movie

 WapElements
for your phone

Copyright

Acknowledgements

Help

About WebElements

WebElements wall
chart

Sign the guest book

 FlashElements

Search by keywords:





- (large file: 275 k, QuickTime player required.)
- Animate the above image by animated gif (large file: 270 k)

Expansion and conduction properties

[View...](#)



[Go!](#)

Thermal conductivity [/ $\text{W m}^{-1} \text{K}^{-1}$]: 150

[View...](#)



[Go!](#)

Coefficient of linear thermal expansion [/ K^{-1} multiplied by 10^6]: 2.6

[View...](#)

Enthalpies

[View...](#)



[Go!](#)

Enthalpy of fusion [/ kJ mol^{-1}]: 50.2

[View...](#)



[Go!](#)

Enthalpy of vaporization [/ kJ mol^{-1}]: 359

[View...](#)



[Go!](#)

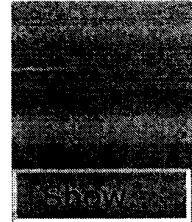
Enthalpy of atomization [/ kJ mol^{-1}]: 456

Show elements whose enthalpy of fusion is

> or = kJ mol^{-1}

sorted ascending by

enthalpy of fusion



WebElements is the periodic table on the WWW

WebElements™, the periodic table on the WWW, URL: <http://www.webelements.com/>
Copyright 1993-2003 Mark Winter [The University of Sheffield and WebElements Ltd, UK]. All rights reserved.

Document served: Thursday 19th June, 2003

[Home](#)[About This Site](#)[Comments](#)[Help](#)[Links](#)[Window Version](#)

Show Table

With:

[Name](#)[Atomic](#)[Number](#)[Atomic Mass](#)[Electron](#)[Configuration](#)[Number of](#)[Neutrons](#)[Melting Point](#)[Boiling Point](#)[Date of](#)[Discovery](#)[Crystal](#)[Structure](#)

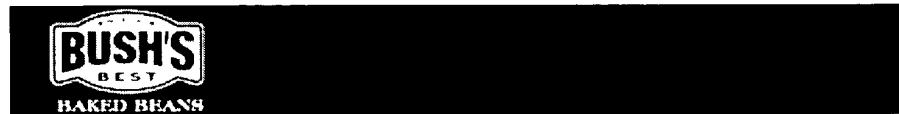
Element

Groups:

[Alkali Metals](#)[Alkaline Earth](#)[Metals](#)[Transition](#)[Metals](#)[Other Metals](#)[Metalloids](#)[Non-Metals](#)[Halogens](#)[Noble Gases](#)[Rare Earth](#)[Elements](#)

Periodic Table: Silicon

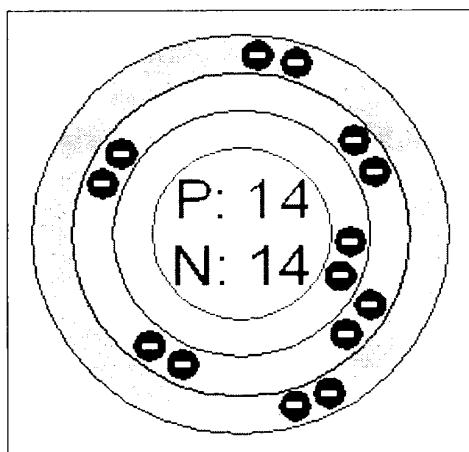
At Chemical Elements.com

[Basic Information](#) | [Atomic Structure](#) | [Isotopes](#) | [Related Links](#) | [Citing This Page](#)

Basic Information

Name: Silicon**Symbol:** Si**Atomic Number:** 14**Atomic Mass:** 28.0855 amu**Melting Point:** 1410.0 °C (1683.15 °K, 2570.0 °F)**Boiling Point:** 2355.0 °C (2628.15 °K, 4271.0 °F)**Number of Protons/Electrons:** 14**Number of Neutrons:** 14**Classification:** Metalloid**Crystal Structure:** Cubic**Density @ 293 K:** 2.329 g/cm³**Color:** grey

Atomic Structure

**Number of Energy Levels:** 3**First Energy Level:** 2**Second Energy Level:** 8**Third Energy Level:** 4

Isotopes

Isotope Half Life

Si-28	Stable
Si-29	Stable
Si-30	Stable
Si-31	2.62 hours
Si-32	100.0 years

Facts**Date of Discovery:** 1823**Discoverer:** Jons Berzelius**Name Origin:** From the Latin word *silex* (flint)**Uses:** glass, semiconductors**Obtained From:** Second most abundant element. Found in clay, granite, quartz, sand**Related Links**

Note: The external links below are not a part of this site and their content is not the responsibility of this site

1. [Healthworld Online - Silicon](#)

Contains an "Introduction to Tungsten", among other things

If you know of any other links for Silicon, please [let me know](#)

MLA Format for Citing This Page

Bentor, Ynon. [Chemical Element.com - Silicon](#). Jun. 19, 2003 .

For more information about citing online sources, please visit the [MLA's Website](#).

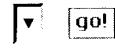
This page was created by Ynon Bentor.

Use of this web site is restricted by this site's [license agreement](#).

Copyright © 1996-2003 Ynon Bentor. All Rights Reserved.



All Infoplease



[Infoplease Home](#)

[Daily Almanac](#)

[Disasters](#)

[World](#)

[United States](#)

[History & Gov't](#)

[Biography](#)

[Sports](#)

[Arts & Ent.](#)

[Business](#)

[Society & Culture](#)

◦ [Health & Science](#)



[INFO PLEASE
Teachers](#)



[INFO PLEASE
Parents](#)



[Fact Monster](#)

Kids' reference



[Info:Daily](#)

Fun facts



[Homework](#)

Center



[Newsletter](#)

You've got info!

[Help | Site Map](#)

Visit related sites from:

Family Education Network

Search Infoplease



[Info search tips](#)

Search Biographies



[Bio search tips](#)

boiling point, temperature at which a substance changes its state from liquid to gas. A stricter definition of boiling point is the temperature at which the liquid and vapor (gas) phases of a substance can exist in equilibrium. When heat is applied to a liquid, the temperature of the liquid rises until the vapor pressure of the liquid equals the pressure of the surrounding gases. At this point there is no further rise in temperature, and the additional heat energy supplied is absorbed as latent heat of vaporization to transform the liquid into gas. This transformation occurs not only at the surface of the liquid (as in the case of evaporation) but also throughout the volume of the liquid, where bubbles of gas are formed. The boiling point of a liquid is lowered if the pressure of the surrounding gases is decreased. For example, water will boil at a lower temperature at the top of a mountain, where the atmospheric pressure on the water is less, than it will at sea level, where the pressure is greater. In the laboratory, liquids can be made to boil at temperatures far below their normal boiling points by heating them in vacuum flasks under greatly reduced pressure. On the other hand, if the pressure is increased, the boiling point is raised. For this reason, it is customary when the boiling point of a substance is given to include the pressure at which it is observed, if that pressure is other than standard, i.e., 760 mm of mercury or 1 atmosphere (see STP). The boiling point of a solution is always higher than that of the pure solvent; this boiling-point elevation is one of the colligative properties common to all solutions.

melting point

melting point, temperature at which a substance changes its state from solid to liquid. Under standard atmospheric pressure different pure crystalline solids will each melt at a different specific temperature; thus melting point is a characteristic of a substance and can be used to identify it. When heat is applied continuously and in sufficient quantity to such solids, the temperature rises steadily until it reaches the point at which liquefaction occurs. Here the rise ceases and no further change in temperature is observed until all of the substance has been converted to liquid. The heat being applied to the substance at that temperature is consumed in bringing about the change of state, and none is available to raise the temperature of that part of the substance already liquefied until all of it has changed to the liquid. If heat is still applied when liquefaction is complete, the temperature will begin to rise again. The quantity of heat necessary to change one gram of any substance from solid to liquid at its melting point is known as its latent heat of fusion and differs for different substances. Ice, for example, requires approximately 80 calories of heat to change each gram to water at its melting point. Because its heat of fusion is relatively high, ice is used in refrigeration. In freezing (the reverse process, i.e., the change from liquid to solid), heat is given off by the substance undergoing the change, and the amount given off is the same as that absorbed in melting.

vaporization

vaporization, change of a liquid or solid substance to a gas or vapor. There is fundamentally no difference between the terms gas and vapor, but gas is used commonly to describe a substance that appears in the gaseous state under standard conditions of pressure and temperature, and vapor to describe the gaseous state of a substance that appears ordinarily as a liquid or solid. Although most substances undergo changes of state in the order of solid to liquid to gas as the

temperature is raised, a few change directly from solid to gas in a process known as sublimation.